

CLAIMS

Amend the claims as follows.

1. (Currently Amended) A system, method comprising:
a server for storing operating system and hardware configuration updates for routing devices; and
a routing domain containing a plurality of routers each containing an internal routing table for identifying routes through a packet switched network, each router operating a routing protocol configured to synchronize that router's internal routing table with other tables in the routing domain by sending messages according to the protocol, wherein the messages propagate information about new or changed routes within the routing domain;
wherein the routing protocol is further configured to time internal routing table synchronization according to continuous measurements of communication traffic such that the internal routing table synchronization occurs when the measured communication traffic drops below a threshold level;
wherein at least one of the routers in the routing domain is encoded with instructions that, if executed, result in:
storing a default router operating system version and a default router hardware configuration ~~of a networked communications device~~ in a first flash memory unit on said at least one router ~~networked communications device~~, said default router hardware configuration having an associated checksum and an associated timestamp indicating when said default router hardware configuration was downloaded ~~received~~;
downloading ~~receiving~~ an updated router operating system version and an updated router hardware configuration ~~from the server for said networked communications device over a network, wherein said instructions are further configured to monitor for occurrence of the routing table synchronizations and opportunistically initiate said downloading in response to observing one of the routing table synchronizations so that said download initiation coincides with timing determinations of the routing protocol, and wherein said updated router hardware configuration and said updated router operating system version are stored in~~ received into a second flash

memory unit of said ~~at least one router networked communications device~~ including by erasing and rewriting said second flash memory unit ~~independently of said first flash memory unit~~;

performing a checksum operation on said updated router hardware configuration to verify a received copy of said updated router hardware configuration;

creating a timestamp associated with said updated router hardware configuration to indicate when said updated router hardware configuration was downloaded received; and

programming a plurality of programmable logic units on said at least one router networked communications device according to said updated router hardware configuration, wherein said programming occurs if said updated router hardware configuration has a correct checksum and a more recent associated timestamp than said default router hardware configuration, wherein said programmable logic units are coupled with said at least one router networked communications device via a removable card, and wherein said removable card is removably attached to said at least one router networked communications device; and

disposing a CPU and a main memory of the at least one router networked communications device on the removable card, such that the CPU and the main memory of the at least one router networked communications device are coupled with the at least one router networked communications device via the removable card[[.]]; and

broadcasting notification of the updated router operating system version and the updated router hardware configuration across the routing domain, wherein said broadcast notification triggers the routing domain to autonomously synchronize to the new configuration;

wherein the other routers receiving the broadcast notification are configured to delay downloading their configurations from the server, if necessary, so that said downloading by the other routers coincides with the routing protocol's timing determinations.

2. (Cancelled)

3. (Cancelled)

4. (Currently Amended) ~~The method as recited in Claim 1, wherein said method further comprises:~~ A method, comprising:

storing a default operating system version and a default hardware configuration of a networked communications device in a first flash memory unit on said networked communications device, said default hardware configuration having an associated checksum and an associated timestamp indicating when said default hardware configuration was received;

receiving an updated operating system version and an updated hardware configuration for said networked communications device over a network, wherein said updated hardware configuration and said updated operating system version are received into a second flash memory unit of said networked communications device by erasing and rewriting said second flash memory unit;

performing a checksum operation on said updated hardware configuration to verify a received copy of said updated hardware configuration;

creating a timestamp associated with said updated hardware configuration to indicate when said updated hardware configuration was received; and

programming a plurality of programmable logic units on said networked communications device according to said updated hardware configuration wherein said programming occurs if said updated hardware configuration has a correct checksum and a more recent associated timestamp than said default hardware configuration, wherein said programmable logic units are coupled with said network communications device via a removable card, and wherein said removable card is removably attached to said network communications device;

disposing a CPU and a main memory of the network communication device on the removable card, such that the CPU and the main memory of the network communications device are coupled with the network communications device via the removable card;

collecting information, wherein a component of said networked communications device sends a configuration description to a processor of said networked communications device;

creating said default hardware configuration, wherein said processor creates said default hardware configuration using said configuration description; and

comparing said default hardware configuration with said updated hardware configuration and initiating download of said updated hardware configuration upon request of said networked communications device based on low network usage.

5. (Currently Amended) The method as recited in Claim 4 [[1]], wherein said method further comprises verifying security information.

6. (Currently Amended) The method as recited in Claim 4 [[1]], wherein said method further comprises configuring said networked communications device with a schedule for initiating said receiving of said updated hardware configuration.

7. (Cancelled)

8. (Currently Amended) A router, ~~networked communications device~~ comprising:
a bus;
a processor coupled to said bus;
a memory unit coupled to said bus, the memory unit storing instructions that, if executed by the processor, result in:[:;]
~~a processor coupled to said bus, said processor executing a method for updating a hardware configuration of a networked communications device comprising:~~

storing a default router operating system version and a default router hardware configuration of a ~~networked communications device~~ in a first flash memory unit on said router networked communications device, said default router hardware configuration having an associated checksum and an associated timestamp indicating when said default router hardware configuration was downloaded received;

downloading receiving an updated routing operating system version and an updated routing hardware configuration for said router networked communications device over a network, wherein said instructions are further configured to monitor for occurrence of a routing table synchronization controlled by a routing protocol operating on the router and opportunistically initiate said downloading in response to observing the occurrence of the routing table synchronization, and wherein said updated routing hardware configuration and said updated router operating system version are stored in received into a second said flash memory unit of said router networked communications device, said second flash memory unit being erasable and rewritable independently of said first flash memory unit;

performing a checksum operation on said updated router hardware configuration to verify a received copy of said updated router hardware configuration;

creating a timestamp associated with said updated router hardware configuration to indicate when said updated router hardware configuration was downloaded received; and

programming a plurality of programmable logic units on said router networked communications device according to said updated router hardware configuration, wherein said programming occurs if said updated router hardware configuration has a correct checksum and a more recent associated timestamp than said default router hardware configuration, ~~wherein said programmable logic units are coupled with said network communications device via a removable card, and wherein said removable card is removably attached to said network communications device;~~ and

~~disposing a CPU and a main memory of the network communication device on the removable card, such that the CPU and the main memory of the network communications device are coupled with the network communications device via the removable card;~~

notifying other routers of the updated router operating system version and the updated router hardware configuration, wherein the instructions are further configured to opportunistically time sending of the router-to-router notification to coincide with the occurrence of the routing table synchronization or the occurrence of a subsequent routing table synchronization.

9. (Cancelled)

10. (Cancelled)

11. (Currently Amended) The ~~router networked communications device~~ as recited in Claim 8, wherein said opportunistic download initiation corresponds to a time that the routing protocol identifies as being associated with measured network usage dropping below a preset threshold ~~said method further comprises:~~

collecting information, wherein a component of said networked communications device sends a configuration description to a processor of said networked communications device;

creating said default hardware configuration, wherein said processor creates said default hardware configuration using said configuration description; and

comparing said default hardware configuration with said updated hardware configuration and initiating download of said updated hardware configuration upon request of said networked communications device based on low network usage.

12. (Currently Amended) The router networked communications device as recited in Claim 8, wherein said instructions further result in method further comprises verifying security information.

13. (Cancelled)

14. (Currently Amended) The router networked communications device as recited in Claim 8 ~~[[13]]~~, wherein the instructions further result in said method further comprises comparing said default router hardware configuration with said updated router hardware configuration.

15. (Currently Amended) A machine readable medium storing instructions that, if executed, result in Logic encoded in one or more tangible media for execution and when executed operable to:

storing a default router operating system version and a default router hardware configuration of a networked communications device in a first flash memory unit on a router said networked communications device, said default router hardware configuration having an associated checksum and an associated timestamp indicating when said default router hardware configuration was downloaded received;

downloading receiving an updated router operating system version and an updated router hardware configuration for said router networked communications device over a network, wherein said instructions are further configured to monitor for the communication of a routing table synchronization message using a routing protocol operating on the router and

opportunistically initiate said downloading in response to observing the communication of the routing table synchronization message, and wherein said updated router hardware configuration and said updated router operating system version are stored in ~~received into said~~ a second flash memory unit of said router networked communications device including by erasing and rewriting said second flash memory unit independently of said first flash memory unit;

performing a checksum operation on said updated router hardware configuration to verify a received copy of said updated router hardware configuration;

creating a timestamp associated with said updated router hardware configuration to indicate when said updated router hardware configuration was ~~downloaded~~ received; and

programming a plurality of programmable logic units on said router networked ~~communications device~~ according to said updated router hardware configuration wherein said programming occurs if said updated router hardware configuration has a correct checksum and a more recent associated timestamp than said default router hardware configuration, wherein said programmable logic units are coupled with said router network ~~communications device~~ via a removable card, and wherein said removable card is removably attached to said router network ~~communications device~~; and

~~disposing a CPU and a main memory of the network communication device on the removable card, such that the CPU and the main memory of the network communications device are coupled with the network communications device via the removable card.~~

16. (Cancelled)

17. (Cancelled)

18. (Currently Amended) The machine readable medium ~~logic encoded~~ as recited in Claim 15, wherein ~~said opportunistic download initiation corresponds to a time that the routing protocol identifies as being associated with measured network usage dropping below a preset threshold~~ said steps further comprise:

~~collecting information, wherein a component of said networked communications device sends a configuration description to a processor of said networked communications device;~~

creating said default hardware configuration, wherein said processor creates said default hardware configuration using said configuration description; and

comparing said default hardware configuration with said updated hardware configuration and initiating download of said updated hardware configuration upon request of said networked communications device based on low network usage.

19. (Currently Amended) The machine readable medium logic encoded as recited in Claim 15, wherein the instructions further result in said steps further comprise verifying security information.

20. (Currently Amended) The machine readable medium logic encoded as recited in Claim 15, wherein the instructions further result in said steps further comprise notifying another router of the updates to cause the other router to opportunistically initiate downloading of the updates by monitoring for routing table synchronization messages, configuring said networked communications device with a schedule for initiating said receiving of said updated hardware configuration.

21. (Currently Amended) The machine readable medium logic encoded as recited in Claim 15 [[20]], wherein the instructions further result in said steps further comprise comparing said default router hardware configuration with said updated router hardware configuration.

22-26. (Cancelled)